



RECOMMENDED VISION SCREENING GUIDELINES

Prevent Blindness America, in collaboration with professionals in Ophthalmology, Optometry, Nursing, Arizona Department of Health Services and others in the field, facilitated the development of the Guidelines

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RECOMMENDED
VISION SCREENING
GUIDELINES

FOR USE BY

ARIZONA PUBLIC, CHARTER AND PRIVATE
SCHOOLS



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THE OFFICE OF WOMEN'S AND CHILDREN'S HEALTH
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INTRODUCTION

The Arizona Department of Health Services (ADHS) collects vision-screening data from public and private schools across the state each year. This data is used by the Office of Women's and Children's Health (OWCH) for inclusion into Title V, Maternal and Child Health Grant. The information contained in this publication has been compiled from sources considered to be accurate.

This manual provides recommended standards for preschool and school age vision-screenings, and information on appropriate referral criteria and reporting procedures. It does not serve as a complete resource for eye health or eye care.

CHILDREN'S VISION SCREENING

What is Children's Vision Screening?

Children's vision screening is a systematic approach to identifying children with potential vision problems. Vision screening does not take the place of a complete eye examination; only an eye care professional can provide an examination.

What is the purpose of the children's vision screening program?

The purpose is to identify and refer children with potential vision problems to an eye care professional or primary care provider for further examination, diagnosis, and if necessary, treatment and follow-up.

What is the difference between a screening and an examination?

Screening

- ≠ Identifies children at high risk or in need of a professional examination through
- ≠ risk assessment and vision screening tests
- ≠ May detect disorders in early, treatable stage
- ≠ Provides parents and teachers with valuable information and education about eye care
- ≠ Results in a referral to an eye care professional or primary care provider

Examination

- ≠ Examines children for eye disorders and diseases
- ≠ Diagnose eye disorders and diseases
- ≠ Prescribes treatment

IMPORTANCE OF SCREENING

If not detected and treated early, vision problems in children can lead to a variety of long-term consequences. Children are often unaware that they are seeing “less” than they should, and they often do not complain of visual difficulties. Untreated vision problems can lead to:

- ⌘ Permanent loss of vision
- ⌘ Learning difficulties
- ⌘ Delayed sensory and social-emotional development

An understanding of the importance of vision screening by administrators, teachers, school nurses, and parents is critical to the outcome of a student’s academic success. Vision deficits are a common problem in the preschool and school age population. Early detection and treatment of these deficits will lessen the possibility of any damaging long-term effects and have a direct impact on each child’s academic performance.

An effective vision-screening program will include the following:

- ⌘ Trained or Certified Vision Screeners
- ⌘ Annual Screenings
- ⌘ Re-screening, as required
- ⌘ Referrals
- ⌘ Follow-up
- ⌘ Reporting
- ⌘ Continual program evaluation

These guidelines address each element and review of each section will insure an accurate and effective vision-screening program.

TRAINING AND CERTIFICATION

Certification for vision screening is not required; however, it is highly recommended. Standardized screening methods and materials strengthen the credibility of our statewide data collection and interpretation.

Prevent Blindness America offers a three-year certification for Vision Screening. The certification can be obtained by attending a 3-hour training class, passing the test with at least a score of 80%, and being observed in the field by a Prevent Blindness America staff.

For more information regarding the availability of vision screener training and certification, offered by Prevent Blindness American/Arizona Division, contact them at (602) 636-1112.

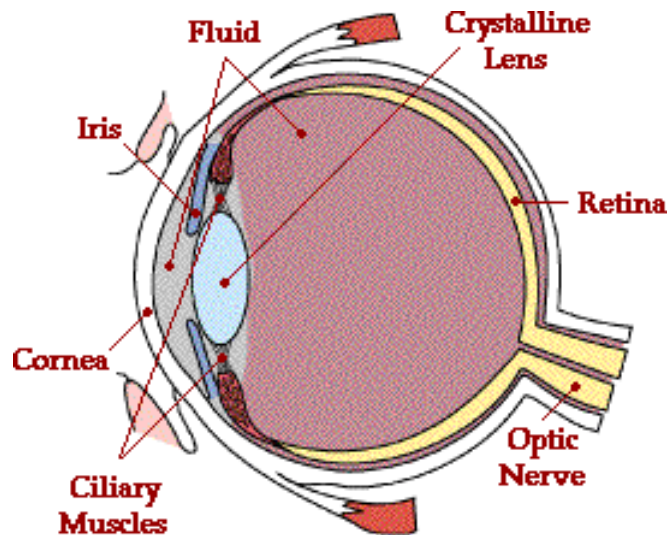
The Basics of Vision

Our eyes receive messages from the outside world and transmit them to our brain. All images we see are the result of reflected or emitted light from the surfaces of objects that we view.

The vision process begins when light rays enter the eye through the transparent, curved **cornea**. The cornea directs the light through the **pupil**. The pupil is an opening that can be expanded or constricted by the **iris** to control light entering the eye. The light is then focused toward the **retina** by a transparent lens. An upside-down image is formed on the retina in the back of the eye.

Cells, called rods and cones, on the retina can sense light and color. Rods detect black and white, while cones detect colors. The cells on the retina turn the picture into electrical signals (nerve impulses) that travel along the **optic nerve** to the brain. The images from both eyes are combined and are “seen” by the brain as right side up.

Some parts of the eye are protective. The eyelids, cornea and sclera all protect the eye from injury. The sclera is the outer “white part” of the eye. The outer wall is tough and gives protection to the delicate inner structures.



Defects in any part of the eye may cause visual deficits.

ABC'S OF VISION PROBLEMS

By simply observing the appearance of a student's eyes and watching his/her behavior during vision screening, one can identify signs of possible trouble in children's vision. This is called observation of the ABC's.

Appearance

- ⌘ Eyes cross, turn in or out
- ⌘ Eyes "wander" all of the time, part of the time, or when the student is tired
- ⌘ Reddened, watery or encrusted eyes
- ⌘ Drooping eyelid(s)
- ⌘ Frequent styles
- ⌘ Presence of white pupil – as the screener observes it or it appears in a photograph
- ⌘ Eye injuries resulting in bruising, swelling or bloodshot eyes.

Behavior

- ⌘ Squinting, frowning, blinking or squeezing the eyes
- ⌘ Thrusting head forward, or backward while looking at distant objects
- ⌘ Rubbing the eyes
- ⌘ Turning head to use only one eye
- ⌘ Tilting the head to one side
- ⌘ Placing head close to book or desk when reading or writing
- ⌘ Closing or covering one eye, especially in sunlight
- ⌘ Tripping, stumbling or daydreaming excessively

Complaints

- ⌘ Headaches
- ⌘ Eye pain
- ⌘ Nausea or dizziness
- ⌘ Burning, scratchy or itching eyes
- ⌘ Blurred or double vision
- ⌘ Words that "move" or "jump" when reading
- ⌘ Sees blur when looking up after close work
- ⌘ Unusual sensitivity to light

Observation of any of these signs is sufficient reason to refer a child for an examination. In such cases it is not necessary to proceed further with screening.

REFRACTIVE ERRORS

Refractive errors are caused by a defect in the shape of the cornea or the shape of the eye. The following are common refractive errors:

Myopia - Nearsightedness

Myopia is the most common vision problem of students. Myopic eyes are too long from the front to the back. The images of distant objects are focused in the front of the retina and appear blurred. This is commonly known as nearsightedness because near things are seen more clearly than distant objects.

Hyperopia – Farsightedness

Hyperopia is the result of the eyeball that is shorter than normal from the front to the back.

The image of near objects is focused behind the retina resulting in blurred near vision.

It is commonly called farsightedness because distant images are seen more clearly.

Astigmatism

Astigmatism is caused by an uneven surface of the eye that prevents light rays from falling

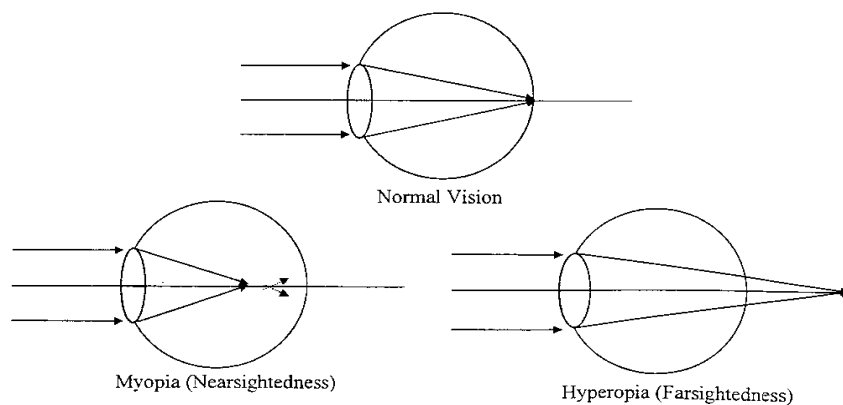
on a single point on the retina. The normal cornea is round like a basketball while the

astigmatic cornea is irregular and elliptical, like a football.

All refractive errors may occur in one eye and not in the other or in both eyes equally or in differing

degrees in each eye. Both distant and near objects are blurred. Always refer a child to a

professional eye care specialist if the one eye is more than a two-line difference after ou



have tested both eyes.

AMBLYOPIA – Lazy Eye

Amblyopia occurs when the eyes are not working together and the brain cannot fuse the images from each eye into one clear image. If the images from each eye are very different, vision in one eye will be suppressed to avoid double vision. Normal vision will not develop in that eye. Testing for amblyopia should be done the earlier the better, preferably by the age of 8. If amblyopia is not detected before the age of 9, it may result in permanent vision loss in the affected eye. Treatment is very successful if started before the age of 6. Therefore early detection and compliance with treatment is critical in preventing permanent vision loss.

Amblyopia may be caused by several conditions. Most often it is the result of unequal refractive error or strabismus.

Differences between the information received in each eye and sent to the brain occur if there is:

- ⌘ A large visual acuity difference or a marked difference in the refractive error between the right and left eyes;
- ⌘ A marked astigmatism in one eye;
- ⌘ A muscle imbalance (strabismus); or
- ⌘ A combination of the above.

Other factors causing a difference in image quality between the eyes

Such factors as cataracts or drooping eyelid may cause amblyopia. The brain suppresses the image of poorer quality, causing a permanent vision loss in the affected eye unless detected and treated before age 9.

Color Deficiencies

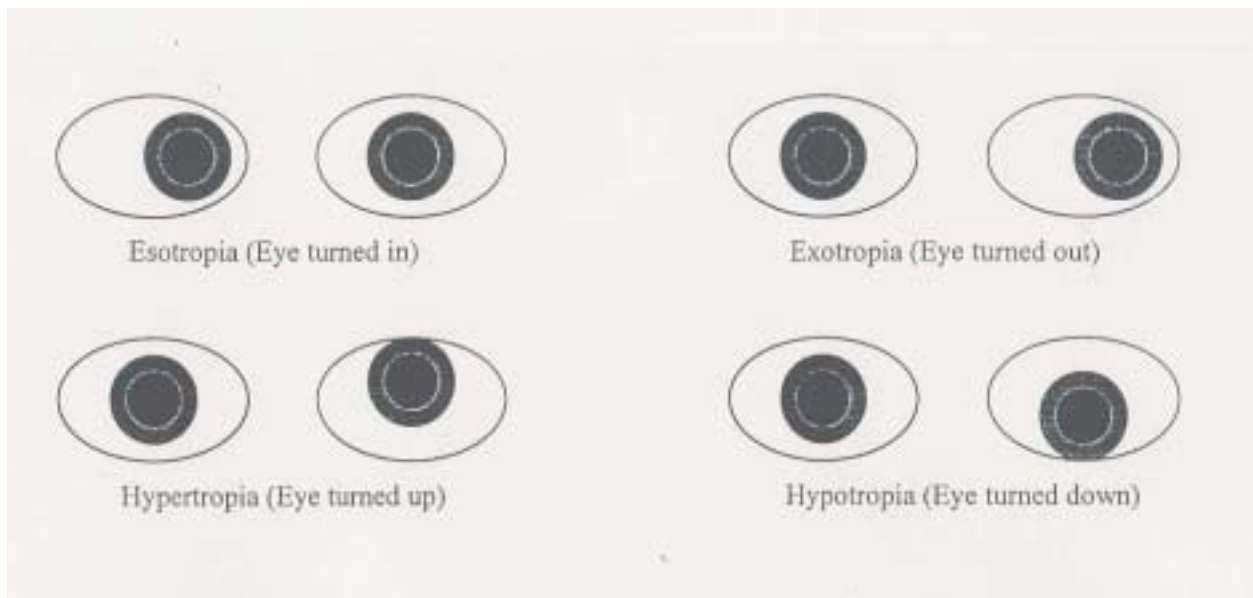
Children with so called “color blindness” are not blind to color, but have difficulty identifying certain colors. Color deficiencies are a result of a defect in special cells on the retina called cones. This defect is more common in boys than girls. Color vision defects are not sight threatening and there is no correction for this condition.

Strabismus – Crossed Eyes

Strabismus is a misalignment of the eyes that prevents them from looking at the same object together. One eye may be directed inward, outward, or rarely, up or down in relation to the other eye. It can be alternating or intermittent in either or both eyes.

Strabismus usually occurs in early childhood because of a failure of proper development

of the muscles that align the eyes. When one eye turns while the other sees straight, a double image is sent to the brain. Strabismus is one of the primary causes of amblyopia. Loss of vision in the affected eye can be avoided if it is treated early.



State Recommendations/Guidelines

In the State of Arizona, the minimum recommended vision screenings are listed below. Additional screenings beyond these guidelines are encouraged if time and resources are available.

RECOMMENDED MINIMUM VISION SCREENING

CHILDREN AGES 9 YEARS AND YOUNGER

(This includes students in kindergarden, first grade, second grade and third grade)

- š Distance Visual Acuity
- š Stereopsis
- š Color Deficiency (only if required by school district)

Children age 10 years and older

(This includes students in the fourth grade, fifth grade and sixth grade)

- š Distance Visual Acuity
- š Near Visual Acuity (only where required)

All new Students

Students receiving Special Education Services

Students referred by a parent, teacher, or other professional

VISUAL ACUITY – REFERRAL CRITERIA

- ## Worse than **20/40** ages three to five in either or both eyes;
- ## Worse than **20/30** ages six and up in either or both eyes;
- ## Or a two line difference.

STEREOPSIS REFERRAL CRITERIA

- ## Less than 4 out of 6 attempts correctly identified.

COLOR VISION DEFICIENCY

- ## Screening need only be done once, preferably upon entry into Kindergarten or grade school. Color deficiency is not correctable. The results should be available to the classroom teacher and the parents; however, referrals to a professional should **not** be made on the basis of color deficiency alone.

An annual vision screening is essential to identify vision problems when correction and preservation of sight can be most effective.

These recommendations are based on guidelines from the American Academy of Pediatrics, the American Academy of Ophthalmology, the American Academy of Pediatric Ophthalmology and Strabismus, U.S. Maternal and Child Health Bureau/National Eye Institute, and Prevent Blindness America/Arizona Division.

SCREENERS ROLES AND RESPONSIBILITIES

Successful vision screening can be organized many ways. Most programs recruit volunteers to help with the screening. Volunteers may consist of parents, or may come from within the school staff; senior programs, college students or community services groups.

Three major roles must be filled in conducting children's screening. Each screening, whether pre-school or school age children, requires the presence of at least one trained or certified screener in one of the roles listed below. One or more volunteers may assist the trained screener. Responsibility for the screening, testing procedures, and referrals lies solely with the trained screener(s) regardless of which role(s) he or she assumes at the screening.

The roles are:

- Trained or Certified Vision Screener
- Chart attendant or pointer
- Recorder

Preschool Screening Practices

Preschool screenings, because many children may need help understanding or cooperating with the test procedures, is best conducted with a minimum of two trained/certified screeners. Volunteers may be utilized as the pointer or recorder. When only one trained/certified screener is assigned to the site, he/she will need assistance from one or two volunteers.

School Age Screening Practices

Two trained/certified screeners are recommended for school-age screening, though one screener working alone or with a volunteer can conduct all aspects of the screening, especially if machines are used.

Allowing for adequate time before the actual screening to train all of the volunteers will be necessary. The following items should be included in any training:

- Orientation to screening materials
- Confidentiality
- Screening procedures
- Record keeping

Setup Acuity Screening Area

HOW TO SET UP SCREENING AREA

- ⌘ Select a wall for the chart that ensures an unobstructed view for the children. Please consider a low traffic area and other distractions that may hinder a valid reading.
- ⌘ A 3' X 3' piece of plain paper may be used as a background when it is necessary to hang the chart on a patterned or cluttered wall.
- ⌘ Place the chart on the wall away from windows that may cause glare or shadows. Place plain paper over windows to reduce glare, if necessary.
- ⌘ The passing or critical line should be approximately at eye level with the child to be screened. This is generally 42" from the floor to midway between the 20/30 and 20/40 lines for the Lea Symbols™ chart; and 48" from the floor to the 20/30 lines for the ETDRS™ chart.
- ⌘ Measure off and mark 10' or 20' depending on the chart you are using.
- ⌘ Mark floor with masking tape to indicate the testing line or tape down "Happy/Magic" feet for preschool children, placing the back of the their heels on the line.
- ⌘ Place a chair and a pointer (may be a pen) near the chart for the chart attendant.
- ⌘ Place a table, occluders, and symbols card (if necessary) near testing line where child will stand.
- ⌘ Place a table, chair, and record forms at the Recorder's station. This is typically midway between the chart and the child and off to the side.

Distance Acuity Screening

Students who cannot pass the acuity screening may have defects, that cause things to appear blurred at a distant. Distance acuity screening at 10 feet will identify students who may have difficulty seeing the front of the classroom.

RECOMMENDED SCREENING TOOLS

⚡ There are many commercial screening tools available. To ensure appropriate referrals, the use of standardized materials is preferred. The following screening tools are recommended:

- Lea Symbols Chart™
- ETDRS Letters™
- Optec or Titmus Machine for children over age 9

The Lea Chart can usually accurately screen students 3 to 5 years of age. Photo screening is also available for students who may have difficulties with the symbols. The decision to switch to a letter chart is dependent on the child's ability to reliably identify the alphabet. Distance charts are designed for 10 foot or 20 foot testing distances. Check the chart to be sure the appropriate testing distance is used.

Pre-school through 2nd grade teachers should work with the students prior to the screening to help them identify the names of the shapes. The students may name the shapes other things, for example:

- | | |
|------------------------|------------------------------------|
| • Circle – Ball, Round | • House – Triangle, School, Church |
| • Square – Box, House | • Apple – Heart |

As long as the child is consistent in naming the objects it is appropriate to allow the children to decide how they see the object.

The manufacturer's instructions should be followed for all screening materials. The following are general hints that may help the screening go faster and smoother:

- ⚡ If a child wears glasses currently – screen the child with their glasses if they are the current corrective lenses;
- ⚡ Standardize routine so that right eye is always screened first to reduce recording errors or if there has been an interruption ;
- ⚡ Observe for behaviors (ABC's) suggesting visual problems or difficulty;
- ⚡ Use age appropriate screening tools to ensure the child can match or identify symbols or letters;

- ⌘ Use Happy footprints (heels placed on testing distance) on the floor to show children where they should stand; Use a pointer to show which line or symbol to read
- ⌘ Begin at the practice line using both eyes;
- ⌘ Set charts at approximate eye level of children;
- ⌘ Screening may be done using either a 10 or 20-foot chart. Check to see that the proper distance is maintained for the chart used;
- ⌘ The child can correctly identify one or more than half the symbols on each line with both right and left eye individually.

Optec And Titmus Machines

Machines are more accurate with older students and may not work well with younger students.

Near Acuity Screening

Near acuity screening uses screening tools that are similar to the ones recommended for distance acuity in a near format. Smaller cards, held at a distance of 16 inches (40mm), are used to measure near acuity. Near visual acuity cards are available with the following charts:

- ## Lea Near Chart™ or LH Symbols
- ## ETDRS Letters
- ## PBA's Near Vision Cards

Near acuity screening is very similar to distance acuity screening. Check to see that the child is able to identify the symbols in their own words:

- ## Follow the manufacturer's suggested distance on the card for each screening (Some cards come with a pre-measured cord to show the proper distance that the card should be held for screening.)
- ## Start with binocular screening (both eyes) to practice the symbols. If you have enough volunteers practice the symbols (or letters) with the child prior to screening.
- ## Visual acuity is recorded as the last line on which more than half of the symbols were identified correctly.
- ## Continue to screen each eye separately.

Referral criteria for near acuity screening are the same as for the distance acuity.

- Worse than **20/40** – ages three to five in either or both eyes;
- Worse than **20/30** ages six and up in either or both eyes;
- Or a two line difference of being able to read with each individual eye

Note: Near Acuity screening, along with color deficiency screening, was not included in the position statement issued by the American Academy of Pediatrics.

RESCREEN, NOTIFICATION, REFERRAL AND REPORTING

PASS

Pass All students who meet the following criteria:

- ☞ Age 3-5 years 20/40 line
- ☞ Age 6 years and older 20/30 line

All Students must:

- ☞ Correctly identify more than half the symbols with both the right and left eyes
- ☞ Have no more than a one-line difference between eyes, even within the passing range.

RESCREEN

Rescreen all students who DO NOT meet the criteria above. Always refer the students who fail the Stereopsis (Random Dot “E” test).

REFER ALL WHO DO NOT PASS THE SECOND SCREENING TO AN OPTOMETRIST OR OPHTHALMOLOGIST FOR FURTHER EVALUATION.

A student may also be referred if the screener, teacher or school health staff notices behavior or symptoms suggesting that there might be a vision or health problem.

All students who cannot or will not be evaluated should be referred.

NOTIFICATION

Notification should be done within two weeks of the rescreen. Notification includes the following persons:

- ☞ Parent or guardian
- ☞ Classroom teacher
- ☞ Guidance counselor
- ☞ Certified teacher of students with visual impairments (if available)

REFERRAL

Referrals should be made if the students screening results indicate a need for further evaluation. If no services are available through the school, parents can use their private insurance. If private insurance is not available parents are provided with resource information.

REPORTING

Vision screening is not mandated by Arizona Legislation as hearing screening is. But, the Arizona Department of Health Services (ADHS) strongly recommends the screening of some students (identified in the ***Recommended Vision Screening Guidelines***) each year. Schools are asked to screen the recommended population of students; and, report the results of their screenings on a report form. Report forms are sent to all schools twice a year by ADHS. Reports are due to ADHS by June 30 or at the end of the school year.

Reports received are reviewed and entered into a database. The data is used for preparing a variety of reports internally and externally. Some data is included in the Federal Maternal and Child Health Block Grant.

Analysis of the data helps to identify schools that screen their students as recommended in the ***Recommended Vision Screening Guidelines***.

Tips For Effective Vision Screening

- ⌘ Notify parents in advance of the screening date and request return of the permission slip (if necessary).
- ⌘ Prepare children by talking about and practicing the screening symbols the week before.
- ⌘ Have the children create or decorate occluders, such as fish, with their names.
- ⌘ Request assistance from a parent or staff member whose responsibility it will be to accompany children to and from the screening room.
- ⌘ When screening is conducted with fewer than three persons, the certified member(s) of the team assigns tasks to best suit the needs and experience of each team member.
- ⌘ Mark the respective passing lines, inconspicuously, when using the same acuity chart for screening preschool and school age children.
- ⌘ To conduct the acuity test, have the younger child or children with language barriers (bilingual or pre-verbal) play a matching game.
- ⌘ Always screen the child's right eye first (it is recorded that way on the paperwork and in case you are interrupted – you know that you always started with the right eye first). Make certain that the child does not peek, squint, or tilt his head. If a child squints on any line, do not count that line as passed.
- ⌘ Make certain that the occluder is in place. Given the opportunity, some children may cleverly sneak and peek with both eyes!
- ⌘ It is not advisable to use one's hand for occluding. The volunteer or screener should hold the occluder to ensure coverage.
- ⌘ Start with having the child identifying symbols prior to the screening. If a child appears uncertain about identifying the symbol or letter, ask for one answer. Say to the child, "I'm not sure what you mean, show me/tell me again." Do not coach the child. For example, do not ask if the symbol is a house or a square. Do not permit the child to make a couple of guesses, all the while looking at you for approval. The child needs to identify 3 or more of the symbols (5 symbol line for pre "k" through 2nd grade) and identify 4 or more symbols (5 symbol line for 2nd grade through 12th grade) in the line to pass that line.

Visual Acuity Screening

I

Visual acuity is defined as the ability to discern fine visual details. It is typically determined by having a child “read” a standardized visual stimulus, such as an eye chart at a standardized distance.

Visual acuity is recorded as a fraction. ***The larger the bottom number the worse the vision!***

⌘# The numerator (top number) represents the distance from the child to the chart.

⌘# The denominator (bottom number) indicates the smallest line in which the child could correctly identify more than ½ of the symbols/letters (i.e., the distance at which a normal eye could read the line).

If using a 10’ chart – still record the denominator as a 20’ number.

Examples

20/20 The child can see details on the chart that a person with normal vision would also read at 20’.

20/200 Indicates a subject reads at 20’ the line that a person with normal vision would read clearly at 200’.

The environment in which vision screening is done should be conducive to accurate testing. It should consist of:

⌘# A **quiet area** free from disturbances.

⌘# A **room at least 22 feet long** to permit use of the 20 foot eye chart. If this is not available, a room at least 12 feet long is required for the use of the 10 foot chart.

⌘# **An uncluttered, non-patterned wall** where the chart is to be located.

⌘# **Normal light, without shadows or glare.**

LEA SYMBOLS CHART™

The Lea Symbols Chart™ was designed especially for children under the age of 6: specifically, 3-5 year olds. It consists of 4 familiar symbols:

- ☞ Circle, sometimes referred to as a ring, a ball or “a-round”
- ☞ Square, sometimes referred to as a block or a brick
- ☞ House, sometimes referred to as a triangle, a church, or an arrow
- ☞ Apple, sometimes referred to as a heart

Testing is conducted at a distance of 10 feet. The child responds by naming the symbol or by pointing to its match.

The symbols were selected because they are equally sensitive to blur and equally difficult to distinguish, helping to eliminate guessing. For example, the apple may be seen as a circle and the house may be seen as a square. The symbols are equally recognizable and are spaced so the distance between symbols on each line equals the size of the symbols on that line. The separation of the rows equals the height of the symbols in the smaller row and the inter-row separation equals the width of the symbol.

The chart discourages a sense of failure on the part of the child and is particularly useful in screening non-English speaking or non-verbal children.

EDTRS CHART™

The ETDRS chart™ uses all 10 Sloan letters (H, V, Z, D, S, N, C, K, O, R) and has the following advantages over other charts:

- ⌘# The consistent number of letters per line will standardize the number (three) of correctly identified letters required to “pass” any given line.
- ⌘# The Sloan letters used in the ETDRS are of approximate equal difficulty.
- ⌘# “The space between letters is one letter wide and the space between lines is equal in height to the letters of the next lower line.” (American Journal of Ophthalmology, 94:91-96, 1982). This assures each successively smaller or larger line is viewed with the same increasing or decreasing level of difficulty.
- ⌘# The level of difficulty between the various combinations of letters from line to line varies less than 1% and no letters spell out words or acronyms on any line.
- ⌘# The bottom portion of the ETDRS chart™ consists of three tests of equal difficulty, enabling the screener to discourage memorization by using different charts for each eye. The center chart can be used for screening subjects unable to correctly identify at least the 20/50 line.

The ETDRS chart™ was developed for use in the Early Treatment Diabetic Retinopathy Study, hence the name ETDRS.

Stereopsis – Random Dot “E” Test

Stereopsis is the visual perception of three-dimensional space resulting from the blending of the images from each eye.

Stereopsis testing is conducted to determine if the eyes are working together. When the brain is able to blend the separate images from each eye into one image, the child can perceive three-dimensional space and is said to have Stereopsis, or binocular vision.

In the child whose eyes are not working together, the brain is unable to blend the separate images from each eye. The child who fails the Random Dot “E” test is at great risk for amblyopia, or loss of vision in one eye. He or she should see an eye doctor for a comprehensive examination.

The Random Dot “E” stereo test, or RDE as it is commonly called, is the recommended tool for Stereopsis screening. Stereopsis testing is required for all children through third grade or age 9. The RDE test set includes two cards with random dot patterns, one of which contains a three-dimensional picture, or stereogram, of the letter E. While wearing polarized glasses, the stereogram is visible to individuals with Stereopsis, but not visible to those without binocularity. Using the two test cards and polarized glasses, the child is asked to identify the card with the “E”.

Random Dot “E” testing is only necessary for children who have passed the acuity screening. Since children generally love the glasses game, many screeners test every child, regardless of the acuity results, to avoid hard feelings among the children.

Color Vision Test

The recommended test for color deficiency screening is the COLOR VISION TESTING MADE EASY®.

The purpose of this test is to detect children who are red-green color deficient. It is 100% Ishihara compatible.

Each test consists of one demonstration card and nine “test” cards (labeled 1-9) displaying a circle, star and/or square. The cards should be held at 30 inches (75cm) and at right angles to the child’s line of sight. Give only 3 seconds to correctly identify each test card. The most practical light source is indirect natural light or fluorescent lighting. Improper lighting or exceeding the three-second time limit invalidates the test. If the child correctly identifies 8 of the 9 “test” cards, they pass. If they fail, retest using cards 1-9 with the circle, star, and square for confirmation.

Note: Even color deficient individuals should correctly identify the demonstration card and one object on the first six cards. This checks for malingering and confirms the individual understood how to take the test.

Screening Special Populations

Students who are very young, developmentally delayed, or have special needs often require more time and special equipment. It is very important to screen them for vision deficits because of the increased number of vision problems among students receiving special education services.

MAXIMIZING SUCCESS USING STANDARD SCREENING MATERIALS

Before the Screening:

- ⚡ Be prepared for longer screening sessions
- ⚡ Use an assistant
- ⚡ Screen at the most receptive time of day
- ⚡ Ask the teacher to work with the children to learn the names of the symbols prior to the screening
- ⚡ A re-screening may be necessary to determine accurate results

During the Screening:

- ⚡ Careful assessment of the ABC's (appearance, behavior, and complaints) is essential
- ⚡ Use response cards for symbol identification if speech is a problem
- ⚡ Isolate symbols if necessary (document this on results)
- ⚡ Screen one eye per session
- ⚡ Use consistent directions and terminology

If the screener doesn't feel that they can adequately assess a student's vision using these techniques, a referral to an eye care professional should be made. Optometrists and Ophthalmologists can assess vision using special equipment and techniques that are not available to a screener. A special needs student who cannot be screened is considered a referral and should be tracked like a student who did not pass the screening.

The following section describes a method for screening students who cannot be assessed through the standard screening. These students are in need of screening as much as, if not more than, the typical student population.

Photoscreener

The Photoscreener is an instant film camera designed to document the light reflexes that are emitted from the eye. The camera was developed as a screening tool for the detection of amblyogenic conditions such as strabismus and refractive errors, including myopia and hyperopia, as well as unequal refractive error and astigmatism. The Photoscreener should be used as a screening device only. Photo refraction does not test directly for the presence of amblyopia, but rather for eye problems that can cause amblyopia if left untreated. The primary advantage of photo refraction is that it can be used with children who are otherwise unable to be screened, preverbal children and developmentally disabled children.

The Photoscreener is an off-axis photo refraction instrument, which requires one photograph with two simultaneous flashes. Results can be obtained immediately with instant film and inadequate pictures can be repeated. More training and expertise is required of the screeners if the photographs are read at the time of the screening. The film cost makes it more expensive.

Photo refraction is a promising technology that allows the expansion of screening programs to include children who are not being screened effectively (preverbal and developmentally disabled children) and to improve upon methods now used for preschool children from 3 to 5 years of age.

Flow Chart For Scheduling School Vision Screening

PARENTS ARE NOTIFIED OF VISION SCREENING

OBTAIN PERMISSION SLIP FROM PARENT OR GUARDIAN

CHILDREN ARE SCREENED
WITH LEA'S SYMBOLS CHART (Children 3 – 5 years of age)
AND RANDOM DOT "E" TEST
(or an EDRS LETTER CHART FOR OLDER CHILDREN)

CHILDREN WHO PASS THE VISION
SCREENING

Results are given to Parents, Teachers
Counselors by the School Nurse or

CHILDREN WHO FAIL THE VISION
SCREENING

Results are given to Parents with
Counselors by the School Nurse or
referral options:

1. Private Insurance
2. School resources (if available)
3. AHCCCS/Kids Care
Those children are referred to
Nationwide Vision through
ReachOut Healthcare America
(formerly Healthy Kids Dental)
4. If the above is not available,
students may be referred to the
Sight for Students Program
through
Prevent Blindness America, or
Health Safari Van (Blue
Cross/Blue Shield),
the ***Arizona Ophthalmologic
Group*** or through
***various Wal-Mart Vision
Centers***

ATTACHMENTS

ATTACHMENT 1	PARENT PERMISSION FOR SCREENING
ATTACHMENT 2	VISION SCREENING RECORD
ATTACHMENT 3	VISION FOLLOW-UP RECORD
ATTACHMENT 4	SAMPLE REFERRAL LETTER
ATTACHMENT 5.....	SAMPLE PARENT NOTIFICATION LETTER
ATTACHMENT 6	ANNUAL VISION SCREENING REPORT FORM
ATTACHMENT 7	ETDRS CHART
ATTACHMENT 8.....	LEA'S SYMBOL CHART
ATTACHMENT 9.....	STEREROPOSIS TEST (SET-UP FOR ACUITY SCREENING AREA)
ATTACHMENT 10	RESOURCES FOR ORDERING SCREENING MATERIALS
ATTACHMENT 11.....	PREVENT BLINDNESS AMERICA ORDER FORM
ATTACHMENT 12	SCREENING TEST NOT RECOMMENDED

SAMPLE PERMISSION SLIP

Dear Parent or Guardian:

With your permission, a free vision screening will be offered for students on

_____.

(date)

I, _____, grant permission for my child,

(parent/guardian name – please print)

_____, to have his/her vision screened.

(child's name –please print)

Volunteers will administer the screening. Vision screening is a good beginning to vision care; however, it is not a substitute nor replaces a professional or comprehensive eye examination. A professional eye examination is recommended at birth, six months, and before your child begins school at about age four or five, or whenever you suspect your child might have a vision problem.

You will be notified of any concern about your child's results, in which case a professional exam will be suggested. According to HIPAA, privacy regulations will be followed in compliance of informing parents/guardians of the child's data to be collected and how it will be used, and providing assurances that the use will be restricted to the stated purposes of referring the child to a professional eye examination.

Payments for the professional eye exam referrals are not the monetary responsibility of the school or Prevent Blindness America/Arizona Division.

Please return this signed form to your teacher no later than _____,
_____. (day)
(date)

Signature: _____ Date: _____

VISION SCREENING RECORD

School Year: _____

[illegible]

VISION FOLLOW-UP RECORD

School Year: _____

[illegible]

SAMPLE REFERRAL LETTER
VISION SCREENING

Date

Name

Address

City, State Zip Code

RE: Child's name

Dear Parent:

Your child's vision screening given at _____ School indicated that a complete vision examination would be advisable. We are therefore suggesting that you take _____ Child's name to an eye specialist for a thorough vision examination.

If you are in need of further information, please contact your local school district school office or local health department.

Please have your vision specialist forward any information that would be useful to me or your child's teacher.

Thank you for your assistance in this matter.

School Address: _____

City, Zip Code: _____

School Nurse: _____

SAMPLE LETTER

PARENT NOTIFICATION OF RESULTS

Dear Parent:

Vision Screening was performed on your child _____ on _____ . The results of the screening are noted below. The purpose and limitations of the screening is provided in detail.

Vision screening is not a substitute for a complete eye examination. Screening does, however, detect decreased visual acuity. A deviation in visual acuity between the two eyes may indicate eye problems that are correctable during a child's early years. Many times such problems are not fully correctable if detection and treatment occur after six or seven years of age. It is recommended that a professional eye examination is given at birth, six months of age, before beginning school, and whenever parents suspect a child has a vision problem.

Children who wear glasses are screened with glasses on.

If a referral is indicated below, talk with your family physician or pediatrician about scheduling an appointment for your child for a complete eye examination by an eye care professional.

your child's vision was considered within normal range (within limitations of the screening method.)

your child did not pass the vision screening today. This may be due to fatigue, the onset of illness, or unfamiliarity with the screening process. Many times a child will pass when rescreened. We will re-screen your child on:

It was not possible to screen your child's vision at this time. This may be because

of his or her age, nervousness, lack of attention or absence. It is advisable that your child be rescreened at a later date.

Your child appears to need a complete professional examination. Please contact your family physician or pediatrician about scheduling an appointment..

VISION SCREENING PROGRAM REPORT

ATTACHMENT 6

PLEASE PRINT AND TOTAL ALL COLUMNS

NAME OF SCHOOL	DISTRICT:	COUNTY:
SCHOOL ADDRESS	CITY:	ZIP CODE:
PLEASE PRINT		
SCREENING PERFORMED BY	SCHOOL YEAR: 2004 - 2005	

	DISTANCE ACUITY			NEAR ACUITY			OCULAR ALIGNMENT			COLOR DEFICIENCY			OUTCOMES		
GRADES	STUDENTS SCREENED	STUDENTS REFERRED FOR 2ND SCREENING	STUDENTS REFERRED FOR EVAL- UATION	STUDENTS SCREENED	STUDENTS REFERRED FOR 2ND SCREENING	STUDENT REFERRED FOR EVAL- UATION	STUDENTS SCREENED	STUDENTS REFERRED FOR 2ND SCREENING	STUDENT REFERRED FOR EVAL- UATION	STUDENTS SCREENED	STUDENTS REFERRD FOR 2 ND SCREEN- ING	STUDENTS IDENTIFIED WITH COLOR DE- FICIENCY	STUDENTS REFERRED TO EYE CARE PRO- FESSIONAL	STUDENTS THAT RECEIVED CARE FROM EYE CARE PRO- FESSIONAL	STUDENTS NOT SEEN OR LOST TO FOLLOW UP
PRE- SCHOOL															
KINDER- GARDEN															
1 st															
2 nd															
3 rd															
4 th															
5 th															
6 th															
7 th															
8 th															
9 th															
10 th															
11 th															
12 th															
SPECIAL EDU- CATION															
OTHERS															
TOTALS															

Recommended Screening:

- Children ages 9 years and younger (Includes pre-school thru 3rd Grade)
 - Distance Visual Acuity
 - Stereopsis
 - Color Deficiency (only if required by school district)
- Children ages 10 years and older (Includes Students in 4th, 5th and 6th Grades)
 - Distance Visual Acuity
 - Near Visual Acuity (only where required)
- All new students
- All students receiving Special Education Services
- Students referred by a parent, teacher, or other professional

**PLEASE COMPLETE AND SUBMIT THIS REPORT FORM TO ADHS BY
JUNE 30TH OF THE CURRENT SCHOOL YEAR.**

MAIL REPORT TO

ADHS/OWCH SENSORY PROGRAM
150 North 18th Avenue, Suite 320
Phoenix, Arizona 85007-3242
(602) 364-1400

FORM COMPLETED BY (If not Screener): _____

ETDRS Chart

H V Z D S

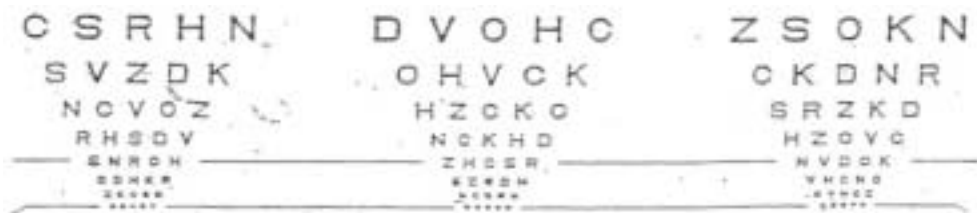
N C V K D

C Z S H N

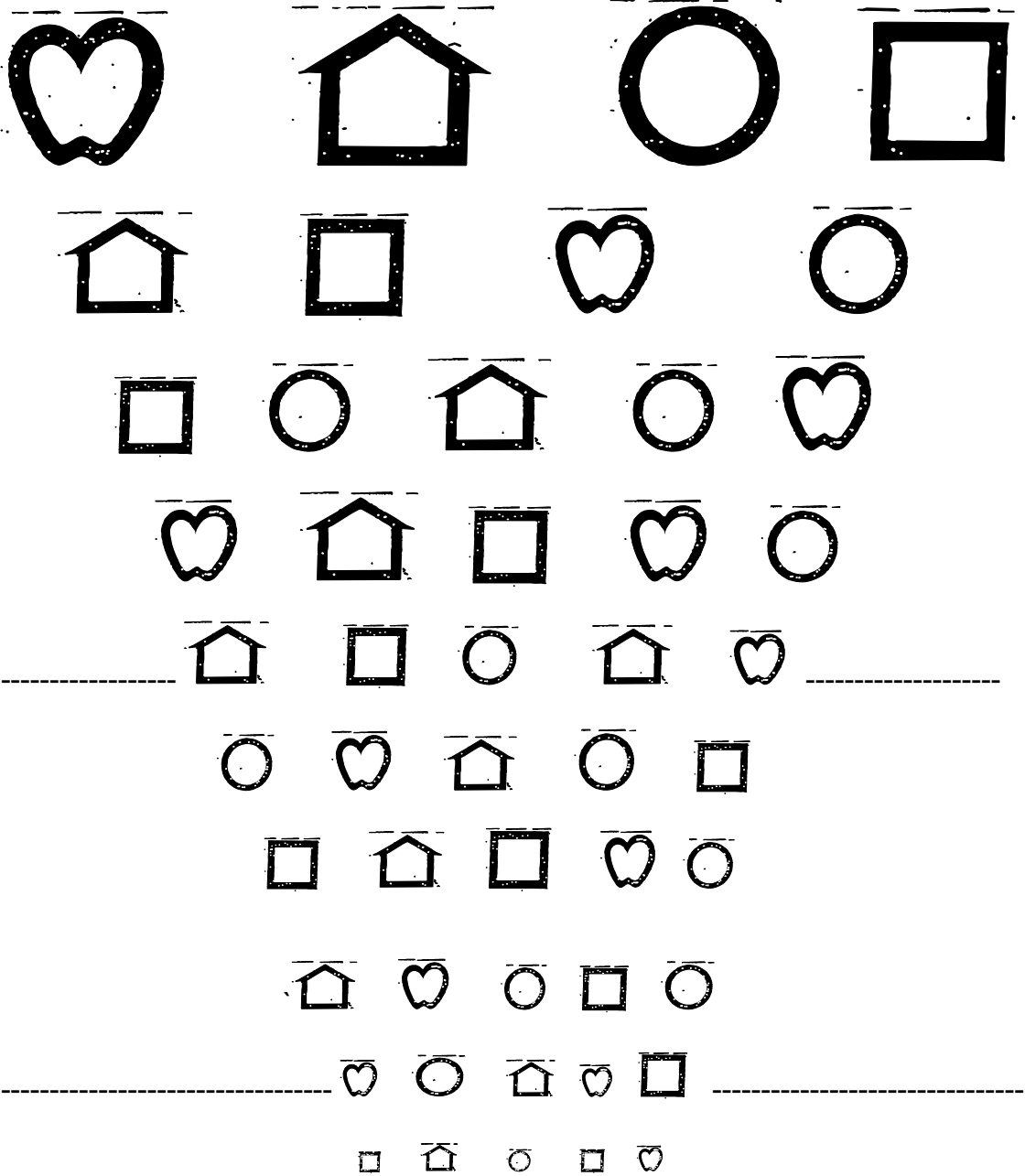
O N V S R

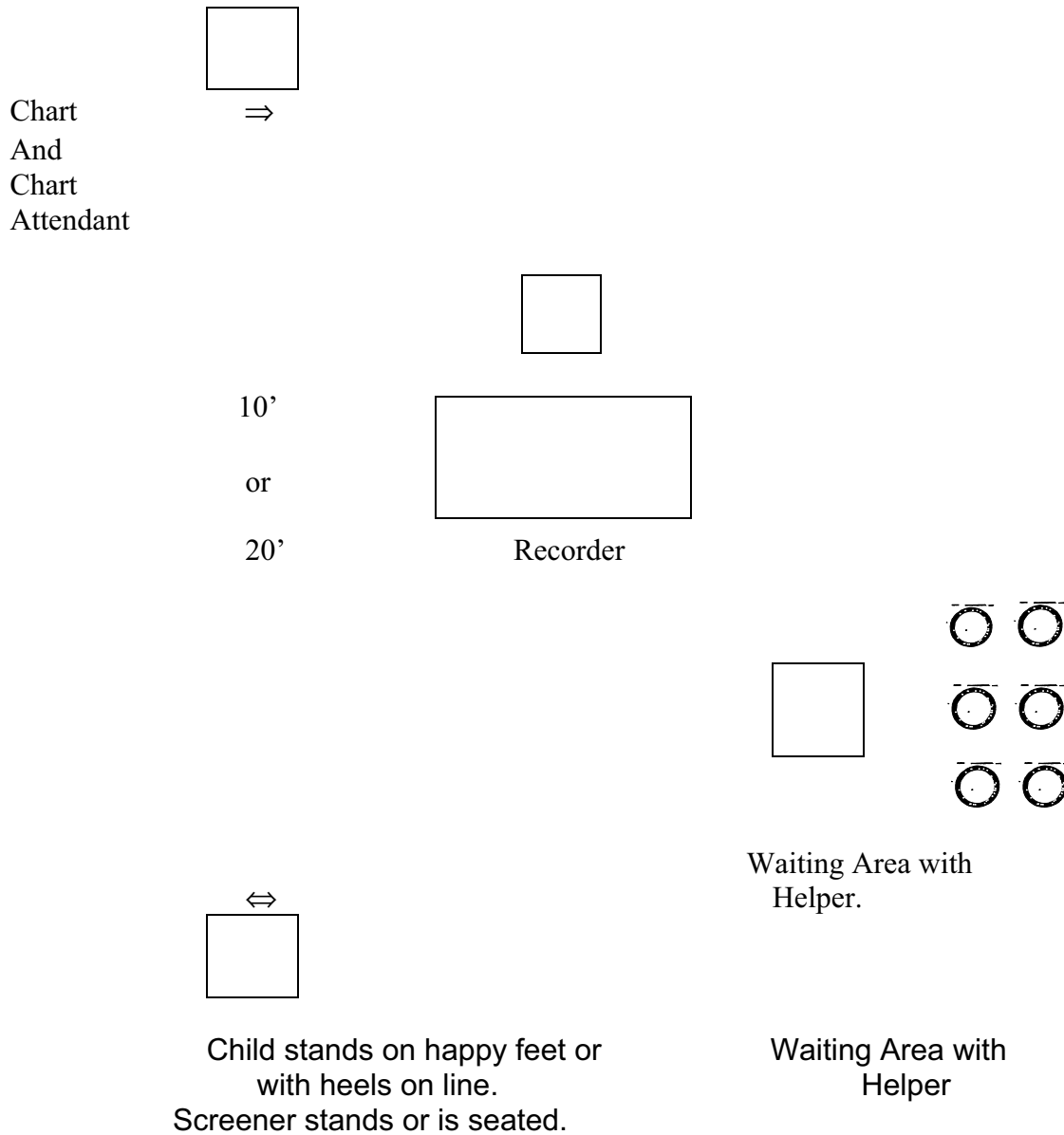
K D N R O

----- Z K C S V -----



Lea Symbol Chart



Step 1: Setup Acuity Screening Area**Typical Room Layout****Note:**

In most settings the stereopsis test is conducted near the recorder.

Limit the waiting area to five or six children with a helper to keep the screening environment quiet and free of distractions.

CHILDREN'S VISION SCREENING RESOURCE

Prevent Blindness America
Arizona division
21620 North 19th Avenue, Suite A-4
Phoenix, Arizona 85027
623.879-7465
623.879-7466

Note: Prevent Blindness was the only resource in the state of Arizona that was located.



21620 N 19th Avenue, Suite A-4
 Phoenix, AZ 85027
 Phone: (623) 879-7465
 Fax: (623) 879-7466
 info@pbaaz.org

Children's Vision Screening Supplies Order Form

Product	Item	Unit	Price	Qty	Total
CVS01	CVS Screening Course Guide			(only available through local PBA)	
52-149	Lea Symbols 10' – 10 Line Chart	Each	\$45.00		
52-151	Lea Near Vision Symbols Chart	Each	\$30.00		
52-159	ETDRS Distance Acuity Chart	Each	\$45.00		
PB61	ETDRS Near Acuity Chart	Each	\$30.00		
PB62	Random Dot E Test Kit w/Viewers	Each	\$90.00		
PB63	Standard 3-D Viewers	6 Pairs/Pkg	\$42.00		
PB64	Pediatric 3-D Viewers	Each	\$15.00		
PB75	Color Vision Made Easy	Each	\$75.00		
PB70	Prevent Blindness Logo Bag	Each	\$30.00		

Order Total S & H Charge

\$1 - \$26	\$7
\$26 - \$50	\$10
\$51 - \$100	\$15
\$101 - \$200	\$20
\$201 - \$500	6%
\$500 +	Call For Rates

Subtotal		
Shipping & Handling		
Total		

Billing Information	Ship To
Name: _____	Company: _____
Address: _____	Attention: _____
City: _____ State: _____ Zip: _____	Address: _____
Phone: _____	City: _____ State: _____ Zip: _____
Fax: _____	
PO#: _____	

Office Use Only

Date Order Received: _____

Order Processed By: _____

Process Date: _____

OTHER VISION SCREENING TESTS NOT RECOMMENDED

Test	Purpose	Comment
Allen Picture Cards	Used for testing visual acuity. Consists of pictures of a telephone, cake, house, bear, jeep, tree, flower and horse with rider	Picture symbols do not meet recommended criteria. Children may have difficulty recognizing the symbols. <i>Not recommended.</i>
Automated Refraction	Use of an electro—mechanical or computerized device for determine an eye's refractive error	Diagnostic test; expensive equipment. May be unreliable in children without cycloplegia (eye drops used for examination). <i>Not recommended for general screening programs.</i>
Corneal Light Reflex (Hirschberg Test)	Tests alignment of the eyes. Requires child's attention, useful acuity and ability to fixate on a light. An observed deviation of the light from the center of the pupil in either eye while both eyes are fixated on a light is reason for referral	Reliable results are difficult to obtain, even for well-trained Screeners. <i>Not recommended.</i>
Cover/uncover	Tests the alignment of the eyes. Visual fixation is required. Child fixates on a near and again on a distant object. Monocular movement or shift on alternate cover is a reason for referral	Reliable results are difficult to obtain, even for well-trained screeners. <i>Not recommended</i>
Landolt C	Used for testing visual acuity. Also known as Landolt Rings, Broken Circle and C test. Is a direction identification test.	Can be difficult test for child to understand. <i>Although not preferred for testing children, the test is acceptable for visual acuity screening</i>
Near acuity	Used to test visual acuity at a distance of 14 to 16 inches.	Children with even high level of hyperopia (farsightedness) have a reserve accommodative ability to focus on near object for short periods of time. <i>Only Use</i> - if required by the school or school District.

Information for "Other Vision Screening Tests Not Recommended" was provided by Prevent Blindness America

OTHER VISION SCREENING TESTS NOT RECOMMENDED

Test	Purpose	Comment
Photo-Refracton	This is a technique used to record corneal and fundus reflexes by flash or video photography that may allow detection of conditions that might result in amblyopia.	Suitable for use with infants, preverbal children and developmentally disabled children. Camera and film more expensive than traditional screening methods. <i>Not recommended for general use in preschool and school vision screening programs.</i>
Plus lens	Designed to detect children who are more than moderately farsighted. Children must look through plus-sphere lenses while looking binocularly at a visual acuity chart. Only given to children passing the distance acuity test with each eye. Referral is made if child can still read passing line.	Moderate binocular hyperopia is not sight threatening. Can be difficult to use on a child. Requires cleansing between uses. Time and equipment expense can be a factor. <i>Not recommended</i>
Vision Screening Machines	Automated devices for testing near and distance visual acuity. Can use a variety of letter or symbol slides. Some devices can test other visual functions.	Child cooperation can be a problem. Prevents observation of child during testing. <i>Not recommended for use with young children.</i>